

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
22 December 2005 (22.12.2005)

PCT

(10) International Publication Number
WO 2005/120704 A1

(51) International Patent Classification⁷: B01J 27/14

(21) International Application Number: PCT/KR2004/001647

(22) International Filing Date: 3 July 2004 (03.07.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2004-004335 12 June 2004 (12.06.2004) KR

(71) Applicant (for all designated States except US): LG CHEM. LTD. [KR/KR]; 20 Yeouido-dong, Youngdeungpo-gu, Seoul 150-721 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): JEON, You-Moon [KR/KR]; 406-306 Expo Apt., Jeonmin-dong, Yuseong-gu, Daejeon-City 305-762 (KR). KO, Dong-Hyun [KR/KR]; 11-301 Professor Apt., Gajeong-dong, Yuseong-gu, Daejeon-City 305-350 (KR). KWON, O-Hak [KR/KR]; 108-102 Sanga Apt., Mannyun-dong, Seo-gu, Daejeon-City 302-739 (KR). EOM, Sung-Shik [KR/KR]; 317-1305 Songgang Green Apt. 199 Songgang-dong, Yuseong-gu, Daejeon-City 305-751 (KR). LEE, Sang-Gi [KR/KR]; 105-1203 Samsung Pureun Apt. Jeonmin-dong, Yuseong-gu, Daejeon-City 305-727 (KR). MOON, Ji-Joong [KR/KR]; 8-409 LG Sawon Apt., Doryong-dong, Yuseong-gu, Daejeon-City 305-340 (KR).

(74) Agent: KIM, Eui-Bak; The Cheonghwa Bldg., 1571-18 Seocho-dong, Seocho-gu, Seoul 137-874 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NL, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CR, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/120704 A1

(54) Title: PHOSPHORUS-CONTAINING CATALYST COMPOSITION AND HYDROFORMYLATION PROCESS USING THE SAME

(57) Abstract: Provided are a catalyst composition comprising a bidentate ligand, a monodentate ligand, and a transition metal catalyst and a process of hydroformylation of olefins, comprising reacting the olefin compound with gas mixture of hydrogen and carbon monoxide with stirring at an elevated pressure and temperature in the presence of the catalyst composition to produce aldehyde. The present catalytic compositions show high catalytic activity, high normal-to-iso aldehyde selectivity, and high stability.